
GARLOCK KAMMPROFILE GASKET

Exceptional reliability in difficult applications



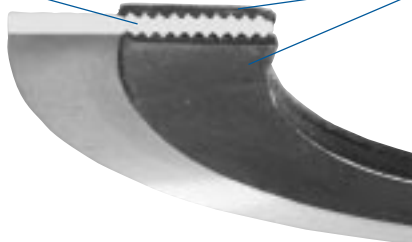
Garlock
SEALING TECHNOLOGIES®

Garlock Kammprofile Gasket

Superior Performance

Serrated solid metal core

- Serrations concentrate bolt load on small area for tight seals at lower stress
- Solid metal core resists cold flow, overcompression and blowout
- Rigid core provides exceptional stability, even in large sizes, and facilitates handling and installation



Soft, deformable sealing material

- Under compression, fills seating surface imperfections to form a tight, metal-to-metal connection
- Seals under low stress—ideal for weaker flanges
- Withstands extreme fluctuations in temperatures and pressures

Style Selection Guide

Garlock Kammprofile Styles	Construction		Centering Ring		Flange			
	Parallel Root	Convex Root	Integral	Floating	Male/Female	Tongue/Groove	Flat Face	Raised Face
642 A	●				●	●		
642 AR	●		●				●	●
642 AR2	●			●			●	●
642 AC		●			●	●		
642 ARC		●	●				●	●
642 ARC2		●		●			●	●

- **Convex root** core compensates for flange weakness and counteracts flange rotation
- **Integral centering ring** ensures optimum gasket positioning
- **Floating centering ring** attached outside sealing area compensates for expansion and contraction during thermal cycling

Applications

- Accommodates standard ASME flanges as well as weaker and non-circular flanges
- Economical replacement for jacketed heat exchanger gaskets
- Seals less than perfect flanges
- Handles pressures from vacuum to Class 2500
- Withstands temperatures from cryogenics to 2000°F (1100°C)

Material Options

Metal Core	Max. Temperature	
304 SS	1400°F	760°C
316 SS	1400°F	760°C
321 SS	1400°F	760°C
Aluminum	800°F	425°C
Copper	600°F	315°C
HASTELLOY®	2000°F	1090°C
INCONEL®	2000°F	1090°C
INCOLOY®	1600°F	870°C
MONEL®	1500°F	815°C
Titanium	2000°F	1090°C

Sealing Element	Max. Temperature	
ePTFE	500°F	260°C
Flex. graphite*	950°F	510°C
GYLON®	500°F	260°C
PTFE	500°F	260°C

* Up to 6000°F (3300°C) in reducing atmosphere

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Room Temperature Tightness Test (ROTT)



■ Purpose:

Determine a gasket's sealing capabilities at room temperature

■ Sample used:

One 4" stainless steel and flexible graphite Class 150 Garlock Kammprofile gasket

■ Procedure:

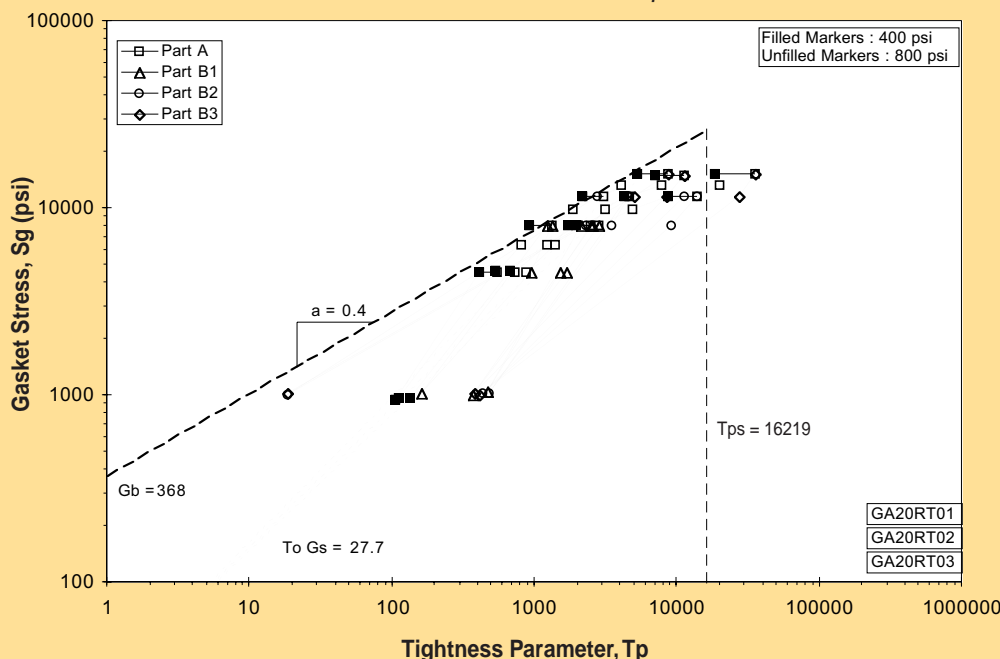
- Part A—Initial joint tightening: Gasket loaded to five incremental stress levels from 1,025 to 15,160 psi
- Parts B1-B3—Joint relaxation and retightening: Gasket loading in Part A interrupted

- during last three stress levels for unload/reload sequence
- At each stress level, the leakage of helium is measured at pressures of 400 and 800 psig
- Test data is plotted on log-log scale

Comparison of Seating Requirements

Gasket Material or Style	Gasket Constant Gb (psi)	Gasket Constant 'a' (psi)	Gasket Constant Gs (psi)	Stress Req'd for Tightness of 100 (psi)	Stress Req'd for Tightness of 1,000 (psi)	Stress Req'd for Tightness of 10,000 (psi)
Garlock Kammprofile	368	0.4	0.28	2,324	5,838	14,664
Flexible graphite spiral wound	2,300	0.237	13	6,851	11,823	20,405
PTFE-filled spiral wound	4,500	0.14	70	8,575	11,836	16,339
Foil-reinforced flexible graphite	816	0.377	0.066	4,631	11,033	26,284

ROTT Test Performance of Kammprofile Gasket



* "Gb" and "a" measure tightness at initial seating, "Gs" indicates tightness under bolt load loss during operation—low values indicate best performance. "Tp" measures the gasket's ability to control leakage in a pressurized joint—the higher the Tp the tighter the joint.

Test Conclusions

- The Kammprofile gasket effects a tight seal under lower initial seating stress than other gaskets
- The Kammprofile gasket exhibits superior tightness during stress cycling

WARNING:

Properties/applications shown throughout this brochure are typical. Your specific application should not be undertaken without independent study and evaluation for suitability. For specific application recommendations consult Garlock. Failure to select the proper sealing products could result in property damage and/or serious personal injury.

Performance data published in this brochure has been developed from field testing, customer field reports and/or in-house testing.

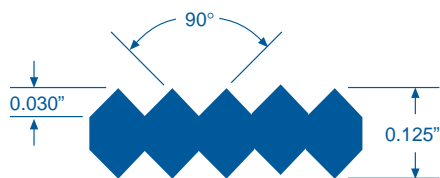
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Thicknesses

Core Thickness		Compressed Thickness*	
Inches	mm	Inches	mm
0.093	2.36	0.095 to 0.105	2.41 to 2.67
0.125	3.18	0.128 to 0.138	3.25 to 3.51
0.187	4.75	0.190 to 0.200	4.83 to 5.08
0.250	6.35	0.253 to 0.263	6.43 to 6.68
0.375	9.53	0.378 to 0.388	9.60 to 9.86
0.500	12.70	0.503 to 0.513	12.78 to 13.03

* Based on a flexible graphite sealing element.

Standard Core and Groove Dimensions



Ordering Information

When ordering, specify:

- Style number
- Material for metal core and sealing element
- OD, ID, and thickness
- Configuration from chart, if applicable

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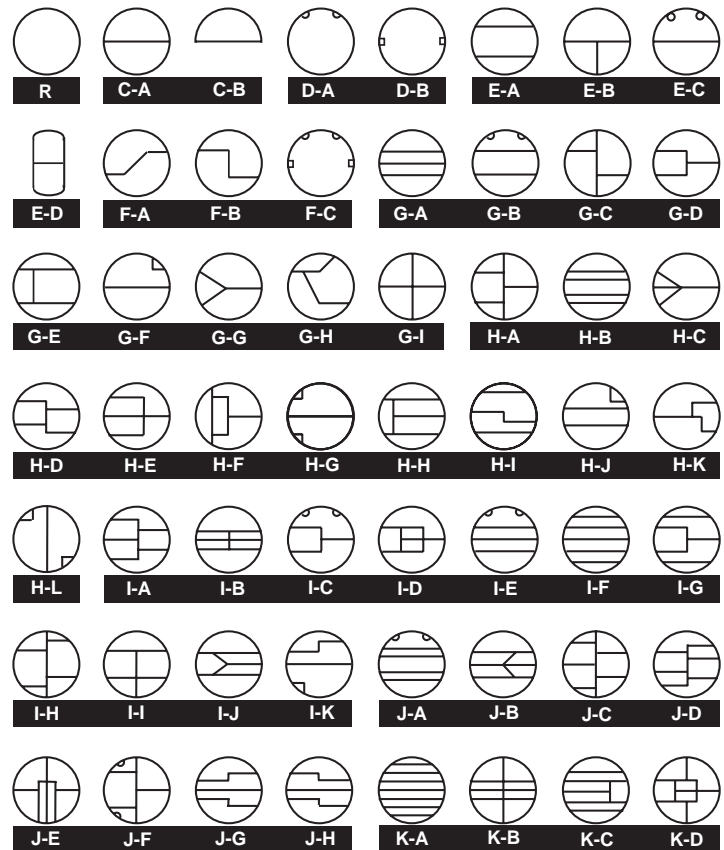
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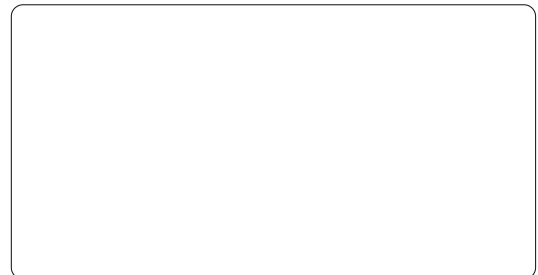
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Heat Exchanger Configurations



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